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IN THE CLAIMS

Amend the claims as indicated below.

- 1 1. (original) A system for real-time buying and selling of bandwidth, and
2 routing of excess traffic over bandwidth purchased in real time, the system comprising:
3 a router that routes a plurality of data packets from a number of network users to a
4 number of backbone providers, the router having:
5 a number of input ports that receive data packets,
6 a number of output ports that transmit the data packets to the backbone
7 providers,
8 switching circuitry that measures a traffic level on each of the input ports,
9 identifies types of data packets, and outputs traffic information in response thereto,
10 a switch controller that receives the traffic information from the traffic
11 measuring circuitry and a number of routing instructions, and controls the switching
12 circuitry in response thereto; and
13 a route optimizer connected to the router, the route optimizer receiving operating
14 instructions, and generating the routing instruction for each input port in response thereto,
15 the routing instructions including a first routing instruction that identifies an output port
16 connected to a fixed-capacity bandwidth provider that can receive data packets up to a
17 first traffic level, and a second routing instruction that indicates that data packets in
18 excess of the first traffic level are to be output to a usage-based bandwidth provider that
19 offers capacity on an as-needed basis.
- 1 2. (original) The system of claim 1 wherein the route optimizer identifies the
2 usage-based bandwidth provider as a lowest cost provider from a list of providers that
3 have capacity.
- 1 3. (original) The system of claim 1 wherein the route optimizer identifies the
2 usage-based bandwidth provider as a lowest cost provider that meets a predetermined
3 maximum response time.

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1 4. (original) The system of claim 3 wherein the route optimizer measures
2 response time to end destinations provided by the usage-based bandwidth providers.

1 5. (original) The system of claim 1 and further comprising a billing system
2 that collects raw transaction data that indicates a bandwidth provider that has received an
3 outgoing data packet.

1 6. (original) The system of claim 5 and further comprising a trading
2 platform that outputs the operating instruction in response to user instructions.

1 7. (original) The system of claim 1 wherein a right to output data packets to
2 the fixed-capacity bandwidth provider is secured prior to the traffic level exceeding the
3 first traffic level.

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1 8. (original) The system of claim 1 wherein a right to output data packets to
2 the usage-based bandwidth provider is secured at a time that usage-based bandwidth is
3 needed.

1 9. (original) The system of claim 1 wherein the routing instructions further
2 include a real-time overflow capacity routing instruction that indicates that overflow
3 traffic from the network user is to be output to a best backbone provider at the time the
4 overflow traffic occurs.

1 10. (original) A method for handling overflow traffic for a bandwidth user
2 that has purchased a total fixed amount of bandwidth capacity, the bandwidth user
3 outputting traffic to an input port, the traffic having a traffic level, the method comprising
4 the steps of:
5 monitoring the traffic level on the input port;
6 determining if the traffic level is near the total fixed amount of bandwidth
7 capacity;
8 if near, determining if the bandwidth user wishes to reroute overflow traffic;
9 if the bandwidth user wishes to reroute overflow traffic, determining if the
10 bandwidth user has selected a provider to handle overflow traffic; and

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11 if the bandwidth user has not selected a provider to handle overflow traffic,
12 purchasing capacity to handle the overflow traffic when the traffic level exceeds the total
13 fixed amount of bandwidth capacity.

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1 11. (original) The method of claim 10 and further comprising the steps of:
2 after capacity has been purchased to handle the overflow traffic, outputting a sales
3 notification; and
4 updating a list of sellers to indicate that capacity has been purchased in response
5 to the sales notification.

1 12. (currently amended) The method of claim 10 and further comprising the
2 steps of:
3 if the traffic level is not near the total fixed amount of bandwidth capacity,
4 evaluating bandwidth user seller instructions to determine if the bandwidth user wishes to
5 sell any unused capacity; and
6 when the bandwidth user wishes to sell excess capacity, updating a list of sellers
7 to indicate that capacity from the bandwidth user is available for sale.

1 13. (currently amended) The method of claim 11 and further comprising the
2 steps of:
3 if the traffic level is not near the total fixed amount of bandwidth capacity,
4 evaluating bandwidth user seller instructions to determine if the bandwidth user wishes to
5 sell any unused capacity; and
6 when the bandwidth user wishes to sell excess capacity, updating a list of sellers
7 to indicate that capacity from the bandwidth user is available for sale.

1 14. (currently amended) A method for routing traffic from a start point to an
2 end destination, a plurality of bandwidth providers being connected to the start point and
3 providing service to the end destination, the method comprising the steps of:
4 continually measuring an amount of time required to send data to the end
5 destination on each of the bandwidth providers that provide service to the end
6 destination;
7 statistically measuring the amount of time to form a measured response time; and

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8 assigning each bandwidth provider to one of a range of response times based on
9 the measured response time.

1 15. (original) The method of claim 10 wherein the continually measuring step
2 includes the steps of:

3 outputting a ping to an identified site;
4 identifying a next site to be pinged; and
5 detecting when the ping from the identified site has been received.

A/ 1 16. (original) A method for ranking a list of bandwidth providers that provide
2 service from a start point, the bandwidth provider including backbone providers and
3 bandwidth resellers, the method comprising the steps of:

4 identifying each backbone provider that provides service from the start point to an
5 end destination to form a list of backbone providers for the end destination;

6 removing backbone providers from the list of backbone providers when the
7 backbone providers indicate that usage-based capacity is not available for sale to form a
8 modified list of backbone providers;

9 forming a list of sellers from the modified list of backbone providers by adding
10 bandwidth reseller to the list when the bandwidth resellers have excess capacity on a
11 backbone provider on the list of backbone providers, and by updating the list of sellers
12 which have more or less capacity available due to a sale; and

13 ranking the list of seller according to a factor.

1 17. (original) The method of claim 16 wherein the factor includes cost.

1 18. (original) The method of claim 16 wherein the factor includes response
2 times.

1 19. (new) A method for buying and selling Internet protocol (IP) transit
2 comprising bandwidth, the method comprising:

3 buying bandwidth in real-time from backbone providers;
4 selling bandwidth in real-time to users; and

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5 reselling bandwidth in real-time to users, wherein the bandwidth to be resold is
6 excess bandwidth previously purchased by users.

1 20. (new) The method of claim 19 wherein users comprise Internet service
2 providers.

1 21. (new) The method of claim 19, wherein selling bandwidth in real-time to
2 users comprises:

3 selling fixed capacity bandwidth, wherein fixed capacity bandwidth comprises
4 fixed blocks of bandwidth; and

5 selling usage-based bandwidth, wherein usage-based bandwidth comprises
6 bandwidth to handle bursts of traffic that exceed the fixed blocks of bandwidth.

1 22. (new) The method of claim 21, wherein selling fixed capacity bandwidth
2 comprises selling multiple fixed blocks of bandwidth from multiple backbone providers
3 to a user.

1 23. (new) The method of claim 22, wherein selling usage-based bandwidth
2 comprises routing bursts of traffic from one of the multiple fixed blocks of bandwidth
3 that is at capacity to another of the multiple fixed blocks of bandwidth that is not at
4 capacity.

1 24. (new) The method of claim 21, wherein selling usage-based bandwidth
2 comprises allowing the user to choose at least one backbone provider to provide the
3 usage-based bandwidth.

1 25. (new) The method of claim 21, further comprising:
2 monitoring traffic on multiple backbone providers to determine a ranking of
3 backbone providers based on at least one factor, including a level of service; and
4 wherein selling usage-based bandwidth comprises choosing at least one backbone
5 provider to provide the usage-based bandwidth based on the ranking.

1 26. (new) The method of claim 25, further comprising maintaining a list of
2 backbone providers, wherein the list includes the ranking, and wherein maintaining

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3 includes adding and removing providers based on bandwidth availability, wherein the
4 providers comprise bandwidth resellers.

1 27. (new) The method of claim 25, further comprising selling fixed block of
2 bandwidth to users based primarily on the ranking.

1 28. (new) The method of claim 21, further comprising:
2 collecting transaction data in real-time, wherein transaction data comprises
3 information regarding actual usage of bandwidth;
4 generating charges for transactions;
5 generating billing statements for transactions; and
6 enabling payment for transaction to be made electronically.

1 29. (new) The method of claim 28, wherein collecting transaction data further
2 comprises extracting packet headers and payload information.

1 30. (new) The method of claim 28, wherein generating charges for
2 transactions further comprises consideration of:
3 type of application;
4 bandwidth allocated;
5 total bytes transferred;
6 time of day;
7 quality of service requested;
8 quality of service delivered; and
9 priority.

1 31. (new) A method for buying and selling Internet protocol (IP) transit
2 comprising bandwidth, the method comprising:
3 buying bandwidth in real-time from backbone providers, wherein buying includes
4 consideration of a quality of service offered by backbone providers;
5 selling bandwidth in real-time to users, wherein selling includes consideration of
6 the quality of service requested by users; and

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7 reselling bandwidth in real-time to users, wherein the bandwidth to be resold is
8 excess bandwidth previously purchased by users.

1 32. (new) The method of claim 31 wherein the quality of service comprises a
2 measure of time required to transmit data from a start point to a destination.

1 33. (new) The method of claim 31 wherein the quality of service comprises at
2 least one of a measure of time required to transmit data from a start point to a destination,
3 and cost.

1 34. (new) The method of claim 31 wherein users comprise Internet service
2 providers.

1 35. (new) The method of claim 31, wherein selling bandwidth in real-time to
2 users comprises:

3 selling fixed capacity bandwidth, wherein fixed capacity bandwidth comprises
4 fixed blocks of bandwidth; and

5 selling usage-based bandwidth, wherein usage-based bandwidth comprises
6 bandwidth to handle bursts of traffic that exceed the fixed blocks of bandwidth.

1 36. (new) The method of claim 35, wherein selling fixed capacity bandwidth
2 comprises selling multiple fixed blocks of bandwidth from multiple backbone providers
3 to a user.

1 37. (new) The method of claim 36, wherein selling usage-based bandwidth
2 comprises routing bursts of traffic from one of the multiple fixed blocks of bandwidth
3 that is at capacity to another of the multiple fixed blocks of bandwidth that is not at
4 capacity.

1 38. (new) The method of claim 35, wherein selling usage-based bandwidth
2 comprises allowing the user to choose at least one backbone provider to provide the
3 usage-based bandwidth.

1 39. (new) The method of claim 35, further comprising:

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2 monitoring traffic on multiple backbone providers to determine a ranking of
3 backbone providers based on at least one factor, including a quality of service; and
4 wherein selling usage-based bandwidth comprises choosing at least one backbone
5 provider to provide the usage-based bandwidth based on the ranking.

1 40. (new) The method of claim 39, further comprising maintaining a list of
2 backbone providers, wherein the list includes the ranking, and wherein maintaining
3 includes adding and removing providers based on bandwidth availability, wherein the
4 providers comprise bandwidth resellers.

1 41. (new) The method of claim 39, further comprising selling fixed block of
2 bandwidth to users based primarily on the ranking.

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1 42. (new) The method of claim 35, further comprising:
2 collecting transaction data in real-time, wherein transaction data comprises
3 information regarding actual usage of bandwidth;
4 generating charges for transactions;
5 generating billing statements for transactions; and
6 enabling payment for transaction to be made electronically.

1 43. (new) The method of claim 42, wherein collecting transaction data further
2 comprises extracting packet headers and payload information.

1 44. (new) The method of claim 42, wherein generating charges for
2 transactions further comprises consideration of:
3 type of application;
4 bandwidth allocated;
5 total bytes transferred;
6 time of day;
7 quality of service requested;
8 quality of service delivered; and
9 priority.